

**Abstract of the Invention**

A system and method for analyzing sheet resistivity of a layer on a wafer employing electrical methods and for controlling rapid thermal annealing (RTA) of the layer is provided. The system includes components for performing RTA on the layer and components for analyzing the sheet resistivity of one or more portions of the layer upon which RTA was performed. The system further includes a feedback generator adapted to accept sheet resistivity data and to produce feedback information that can be used to control the RTA components. The system further includes a data store that can be employed in machine learning and/or to facilitate generating feedback information that can be employed to control RTA and a monitoring application that can be employed to schedule maintenance on the various components in the system.